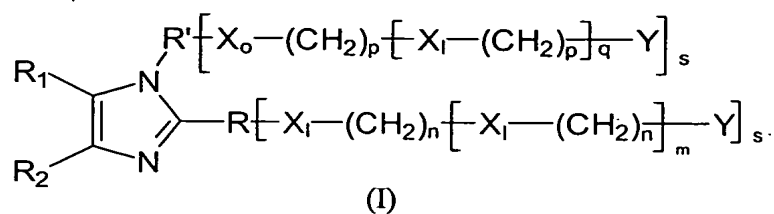
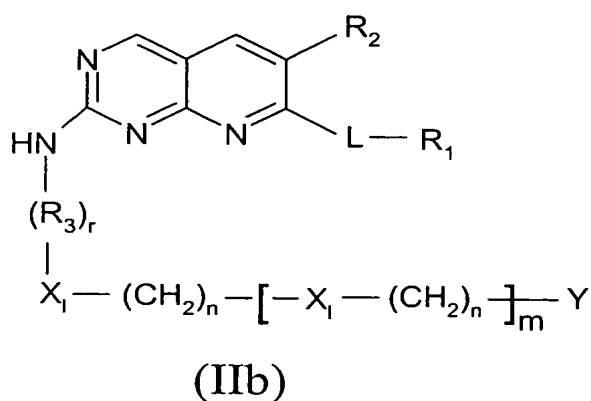
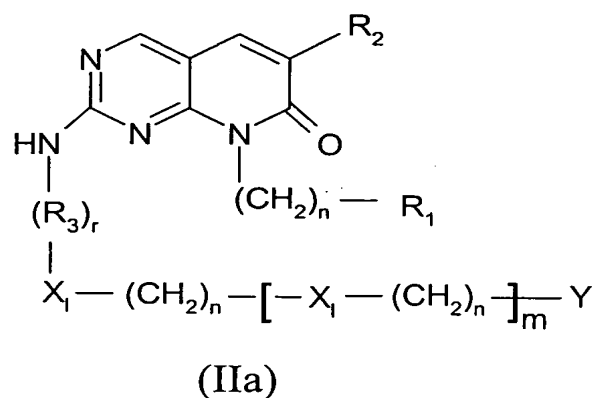


## Amended Claims

51. (new) A medium for separating at least one ATP binding protein from a pool of proteins, the medium comprising at least one compound of the general formula I



formulas IIa and IIb (compound class B)



wherein

each L is independently selected from  $-\text{NH}-\text{CO}-\text{NH}-$ ,  $-\text{NH}-\text{SO}_2-$ , or  $-\text{NH}-\text{CS}-\text{NH}-$ ,

each X is independently selected from  $-\text{CH}_2-$ ,  $-\text{NH}-$ ,  $-\text{O}-$ ,  $-\text{S}-$ ,



each Y is independently selected from  $-\text{NH}_2$ ,  $-\text{NHR}_1$ ,  $-\text{OH}$ ,  $-\text{SH}$  or  $-\text{SO}(\text{CH}_3)$ ,

each l is independently selected to be 0 or 1,

each m is independently selected to be an integer from 0 to 10,

5 each n is independently selected to be an integer from 0 to 10,

each o is independently selected to be 0 or 1,

each p is independently selected to be an integer from 0 to 10,

each q is independently selected to be an integer from 0 to 10,

each r is independently selected to be an integer from 0 to 2,

10 R and R' are independently of each other  $-\text{H}$ ,



and each s is independently selected to be 0 or 1, with the proviso that  $s = 0$  if R or R' is H,

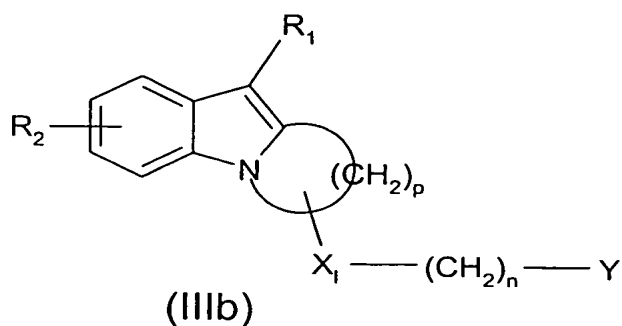
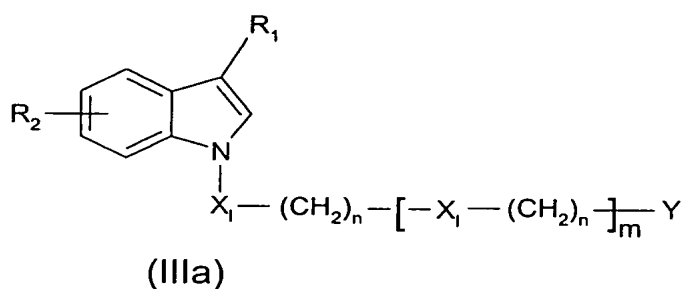
15 each  $\text{R}_1$  is independently selected from  $-\text{H}$ ,  $\text{C}_1 - \text{C}_6$  alkyl (linear or branched), bicyclo[3.3.1]heptanyl, or an unsubstituted or partially or fully substituted  $\text{C}_3 - \text{C}_8$  cycloalkyl, aryl, pyridinyl or pyrimidinyl, substituted by  $-\text{F}$ ,  $-\text{Cl}$ ,  $-\text{Br}$ ,  $-\text{I}$ ,  $-\text{CN}$ ,  $-\text{OH}$ ,  $-\text{SH}$ ,  $-\text{NH}_2$ ,  $-\text{NHCHR}_2\text{R}_2$ ,  $\text{C}_1 - \text{C}_6$ -alkoxy,  $\text{C}_1 - \text{C}_6$ -alkylthio,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy, partially or fully halogenated  $\text{C}_1 - \text{C}_6$  alkyl and/or  $-\text{X}_1(\text{CH}_2)_n - \text{Y}$  ( $\text{C}_1 - \text{C}_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or  
20 branched,  $\text{C}_1 - \text{C}_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched,  $\text{C}_1 - \text{C}_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

25 each  $\text{R}_2$  is independently selected from  $-\text{H}$ ,  $\text{C}_1 - \text{C}_6$  alkyl (linear or branched), an unsubstituted or partially or fully substituted aryl, substituted by  $-\text{F}$ ,  $-\text{Cl}$ ,  $-\text{Br}$ ,  $-\text{I}$ ,  $-\text{CN}$ ,  $-\text{OH}$ ,  $-\text{SH}$ ,  $-\text{NH}_2$ ,  $\text{C}_1 - \text{C}_6$  alkyl (linear or branched),  $\text{C}_1 - \text{C}_6$ -alkoxy,  $\text{C}_1 - \text{C}_6$ -alkylthio,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy, and/or  $\text{C}_1 - \text{C}_6$  partially or fully halogenated alkyl ( $\text{C}_1 - \text{C}_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched,  $\text{C}_1 - \text{C}_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear  
30 or branched,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the

alkyl group is linear or branched, C<sub>1</sub> – C<sub>6</sub>-haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched), and

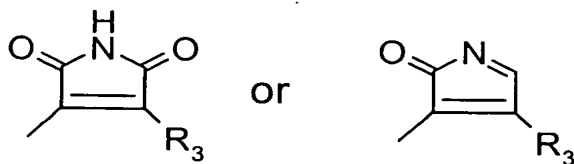
each R<sub>3</sub> is independently selected from X, an unsubstituted or partially or fully substituted aryl, pyridinyl or pyrimidinyl, substituted by –F, –Cl, –Br, –I, –CN, –OH, –SH, –NH<sub>2</sub>, –NHCHR<sub>1</sub>R<sub>1</sub>, C<sub>1</sub> – C<sub>6</sub>-alkoxy, C<sub>1</sub> – C<sub>6</sub>-alkylthio, C<sub>1</sub> – C<sub>6</sub>-haloalkyloxy, and/or partially or fully halogenated C<sub>1</sub>-C<sub>6</sub> alkyl (C<sub>1</sub> – C<sub>6</sub>-alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, C<sub>1</sub> – C<sub>6</sub>-alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, C<sub>1</sub> – C<sub>6</sub>-haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, C<sub>1</sub> – C<sub>6</sub>-haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

formulas IIIa and IIIb (compound class C)



wherein

each R<sub>1</sub> is independently selected from

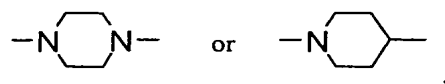


each  $R_3$  is independently selected from -indolyl, N- ( $C_1 - C_6$  alkyl) -indolyl (alkyl is linear or branched),  $-NHR_1'$ ,  $-S-R_1'$ , or  $-O-R_1'$ ,

$R_1'$  is -H,  $C_1 - C_6$  alkyl (linear or branched) or aryl,

each  $R_2$  is independently selected from -H, -F, -Cl, -Br, -I, -CN, -OH, -SH,  $-NH_2$ ,  $C_1 - C_6$ -alkyl (linear or branched),  $C_1 - C_6$ -alkoxy,  $C_1 - C_6$ -alkylthio,  $C_1 - C_6$ -haloalkyloxy, and/or  $C_1 - C_6$  partially or fully halogenated alkyl ( $C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

each X is independently selected from  $-CH_2-$ ,  $-NH-$ ,  $-O-$ ,  $-S-$ ,



each Y is independently selected from  $-NH_2$ ,  $-NHR_1$ ,  $-OH$ ,  $-SH$  or  $-SO(CH_3)$ ,

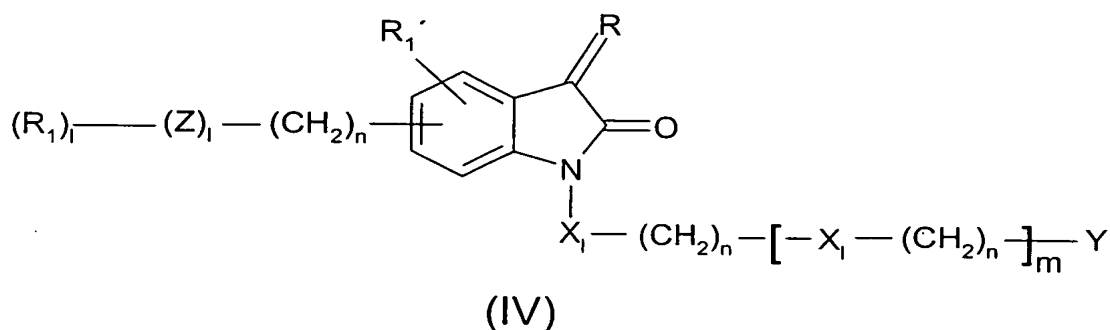
each l is independently selected to be 0 or 1,

m is an integer from 0 to 10,

each n is independently selected to be an integer from 0 to 10,

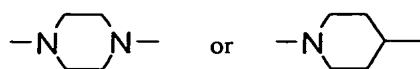
p is an integer from 2 to 6

formula IV (compound class D)



wherein

each X is independently selected from  $-CH_2-$ ,  $-NH-$ ,  $-O-$ ,  $-S-$ ,



each Y is independently selected from  $\text{—NH}_2$ ,  $\text{—NHR}_1$ ,  $\text{—OH}$ ,  $\text{—SH}$  or  $\text{—SO(CH}_3\text{)}$ ,  
 Z is  $\text{—SO}_2\text{—NR}_1\text{R}_1$ ,  $\text{—CO—}$ ,  $\text{—O—CO—}$ ,  $\text{—NH—CO—}$ ,  $\text{—COO—}$ ,  $\text{—CO—NH—}$ ,  
 $\text{—OCH}_2\text{—}$ ,  $\text{—SCH}_2\text{—}$ ,

each l is independently selected to be 0 or 1,

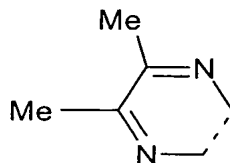
m is an integer from 0 to 10,

each n is independently selected to be an integer from 0 to 10,

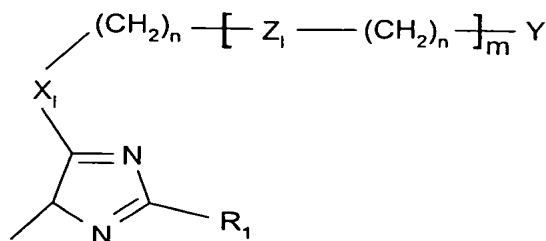
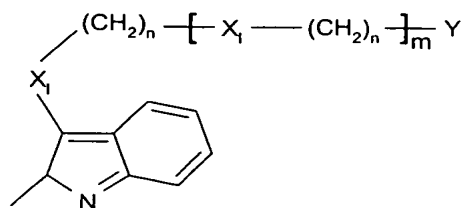
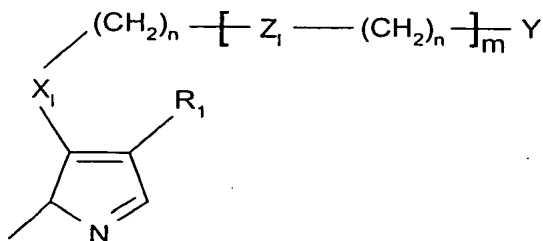
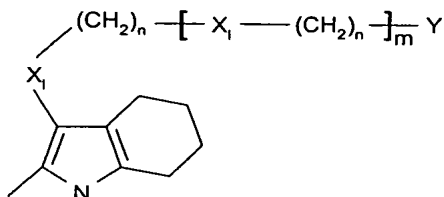
R is  $\text{=CR}_1\text{L}$ ,  $\text{=N—NH—L}$ ,

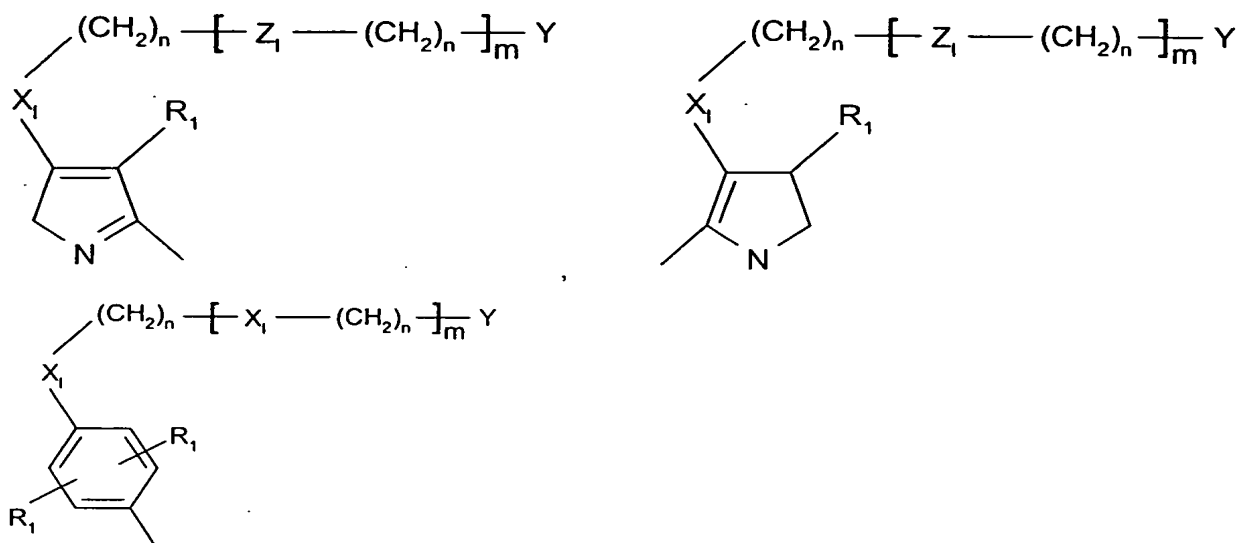
each  $\text{R}_1$  is independently selected from  $\text{—H}$ ,  $\text{C}_1 - \text{C}_6$  alkyl (linear or branched),  
 unsubstituted or partially or fully substituted aryl, pyridinyl, pyrimidinyl,  $\text{C}_3 - \text{C}_8$   
 cycloalkyl substituted by  $\text{—F}$ ,  $\text{—Cl}$ ,  $\text{—Br}$ ,  $\text{—I}$ ,  $\text{—CN}$ ,  $\text{—OH}$ ,  $\text{—SH}$ ,  $\text{—NH}_2$ ,  
 $\text{C}_1 - \text{C}_6$ -alkoxy,  $\text{C}_1 - \text{C}_6$ -alkylthio,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy, and/or  $\text{C}_1 - \text{C}_6$  partially or  
 fully halogenated alkyl ( $\text{C}_1 - \text{C}_6$ -alkoxy denotes an O-alkyl group,  $\text{C}_1 - \text{C}_6$ -alkylthio  
 denotes an S-alkyl group,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy denotes an halogen-alkyl-O group,  
 $\text{C}_1 - \text{C}_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or  
 branched),  $\text{—F}$ ,  $\text{—Cl}$ ,  $\text{—Br}$ ,  $\text{—I}$ ,  $\text{—COOH}$ ,  $\text{—(CH}_2\text{)}_n\text{—OH}$ , oxazolyl, thiazolyl,  
 thienyl, pyrrolyl, furanyl, imidazolyl, pyrazolyl, pyridinyl, pyrimidinyl,

$\text{R}_1'$  is independently selected from H or  $\text{R}_1$  and  $\text{R}_1'$  may form together the following  
 substituted ringsystem

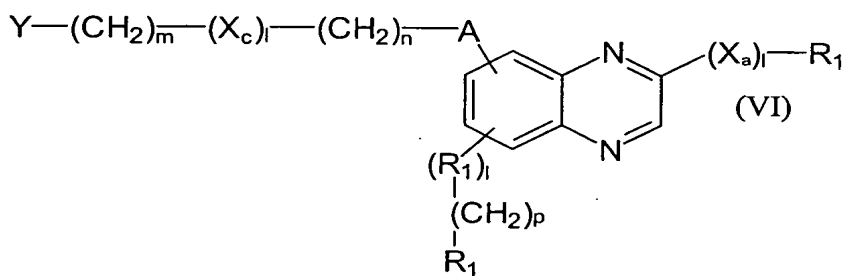
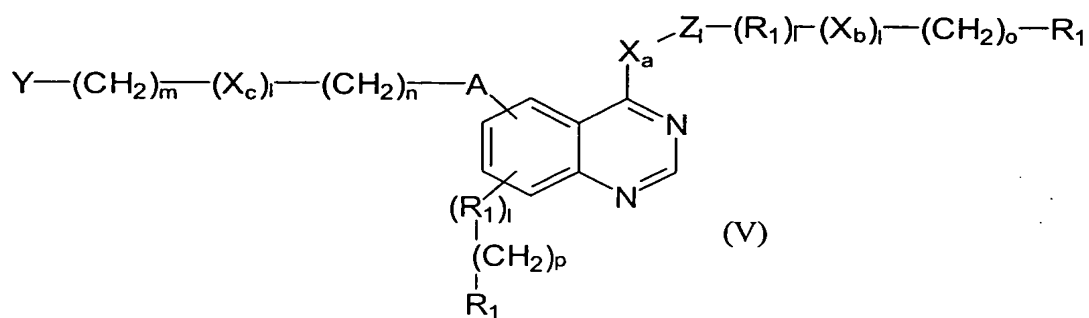


L is



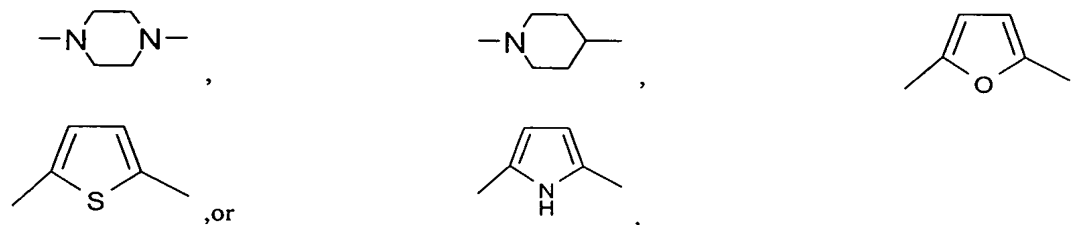


formulas V and VI (compound class E and F)

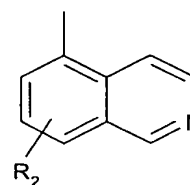
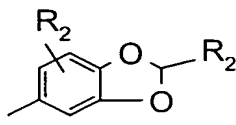
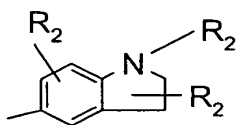


wherein

A, X<sub>a</sub>, X<sub>b</sub>, and X<sub>c</sub>, are independently selected to be Z, -CH<sub>2</sub>-, -NH-, -O-, -S-,

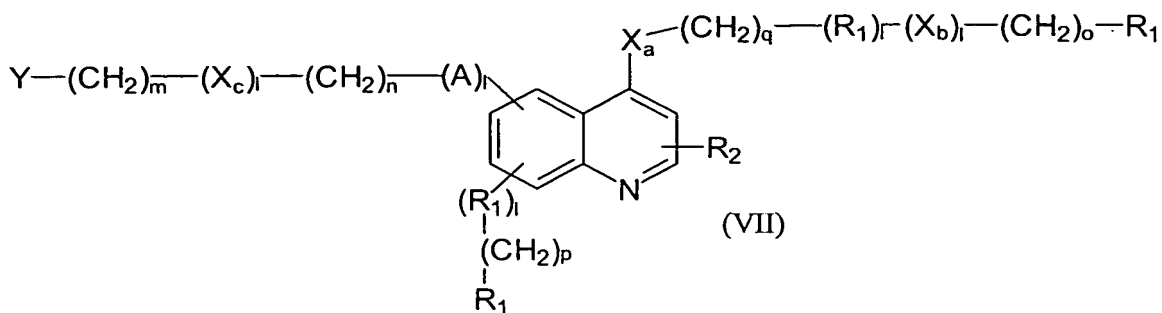


each Y is independently  $-\text{NH}_2$ ,  $-\text{NHR}_1$ ,  $-\text{OH}$ ,  $-\text{SH}$  or  $-\text{SO}(\text{CH}_3)$ ,  
 each Z is independently selected from  $-\text{SO}_2-\text{NR}_1-$ ,  $-\text{CO}-$ ,  $-\text{O}-\text{CO}-$ ,  $-\text{NH}-\text{CO}-$ ,  
 $-\text{COO}-$ ,  $-\text{CO}-\text{NH}-$ ,  $-\text{CS}-\text{NH}-$ ,  $-\text{OCH}_2-$ ,  $-\text{SCH}_2-$ , or  $-\text{NH}-\text{CO}-\text{NH}-$ ,  
 each l is independently selected to be 0 or 1,  
 5 each m is independently selected to be an integer from 0 to 10,  
 each n is independently selected to be an integer from 0 to 10,  
 each o is independently selected to be an integer from 0 to 10,  
 each p is independently selected to be an integer from 0 to 10,  
 each  $\text{R}_1$  is independently selected from  $-\text{H}$ ,  $-\text{O}-$ ,  $\text{C}_1 - \text{C}_6$  alkyl (linear or branched),  
 10  $\text{C}_1 - \text{C}_6$ -alkoxy,  $\text{C}_1 - \text{C}_6$ -alkylthio,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy,  $\text{C}_1 - \text{C}_6$  partially or fully  
 halogenated alkyl, unsubstituted or partially or fully substituted  $\text{C}_3 - \text{C}_8$  cycloalkyl, an  
 unsubstituted or partially or fully substituted aryl, wherein the cycloalkyl and the aryl  
 are optionally substituted by  $-\text{F}$ ,  $-\text{Cl}$ ,  $-\text{Br}$ ,  $-\text{I}$ ,  $-\text{CN}$ ,  $-\text{OH}$ ,  $-\text{SH}$ ,  $-\text{NH}_2$ ,  
 $-\text{CONH}_2$ ,  $\text{C}_1 - \text{C}_6$  alkyl (linear or branched),  $-\text{C}\equiv\text{C}-(\text{CH}_2)_n-\text{CH}_3$ ,  $\text{C}_1 - \text{C}_6$ -alkoxy,  
 15  $\text{C}_1 - \text{C}_6$ -alkylthio,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy, and/or  $\text{C}_1 - \text{C}_6$  partially or fully halogenated  
 alkyl ( $\text{C}_1 - \text{C}_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or  
 branched,  $\text{C}_1 - \text{C}_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is  
 linear or branched,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein  
 the alkyl group is linear or branched,  $\text{C}_1 - \text{C}_6$ -haloalkyl denotes an halogen-alkyl  
 20 group wherein the alkyl group is linear or branched),

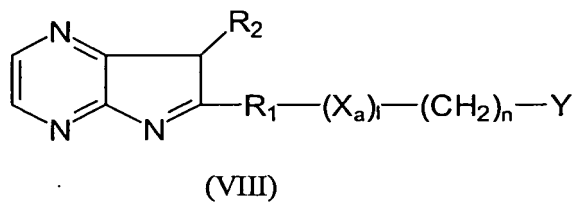


each  $\text{R}_2$  is independently selected from  $-\text{F}$ ,  $-\text{Cl}$ ,  $-\text{Br}$ ,  $-\text{I}$ ,  $-\text{CN}$ ,  $-\text{OH}$ ,  $-\text{SH}$ ,  
 $-\text{NH}_2$ ,  $\text{C}_1 - \text{C}_6$  alkyl (linear or branched),  $\text{C}_1 - \text{C}_6$ -alkoxy,  $\text{C}_1 - \text{C}_6$ -alkylthio,  
 25  $\text{C}_1 - \text{C}_6$ -haloalkyloxy, partially or fully halogenated  $\text{C}_1 - \text{C}_6$  alkyl ( $\text{C}_1 - \text{C}_6$ -alkoxy  
 denotes an O-alkyl group wherein the alkyl group is linear or branched,  
 $\text{C}_1 - \text{C}_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or  
 branched,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl  
 group is linear or branched,  $\text{C}_1 - \text{C}_6$ -haloalkyl denotes an halogen-alkyl group wherein  
 30 the alkyl group is linear or branched),

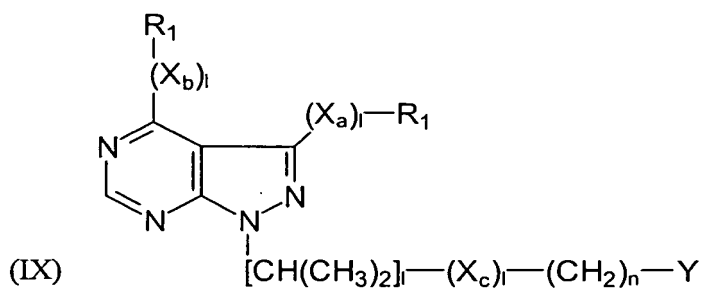
formula VII (compound class G)



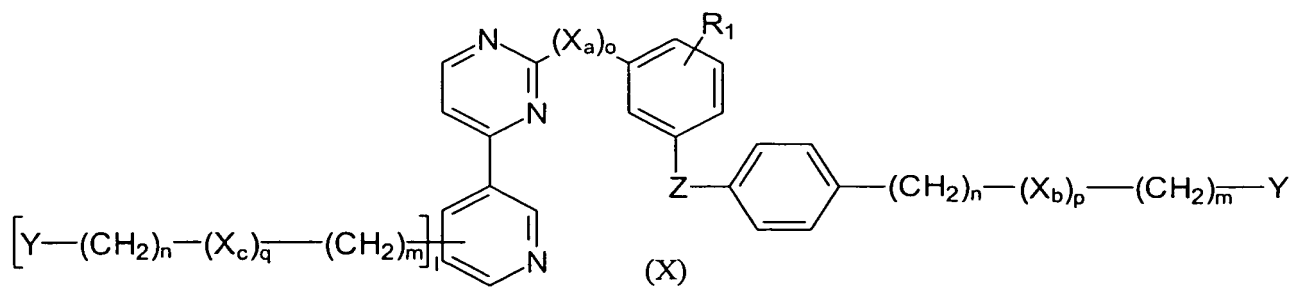
formula VIII (compound class H)



formula IX (compound class I)

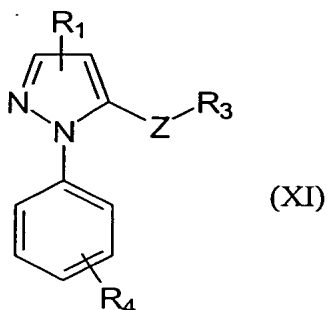


formula X (compound class J)



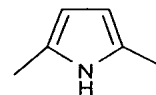
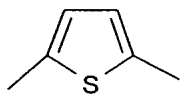
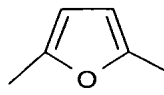
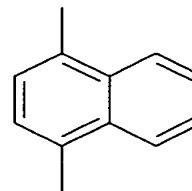
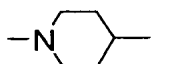
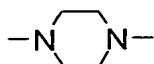


or formula XI (compound class K)



wherein

A, X<sub>a</sub>, X<sub>b</sub>, and X<sub>c</sub> are independently selected from Z, -CH<sub>2</sub>-, -NH-, -O-, -S-,



15 each Y is independently selected from -H, -NH<sub>2</sub>, -NHR<sub>1</sub>, -OH, -SH or -SO(CH<sub>3</sub>),

each Z is independently selected from -SO<sub>2</sub>-NR<sub>1</sub>-, -CO-, -O-CO-, -NH-CO-,  
-, -COO-, -CO-NH-, -OCH<sub>2</sub>-, -SCH<sub>2</sub>-, -NH-CO-NH-,

each l is independently selected to be 0 or 1,

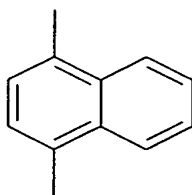
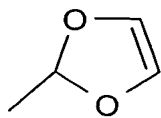
20 each m is independently selected to be an integer from 0 to 10,

each n is an integer independently selected from 0 to 10,

each of o, p, q is an integer independently selected from 0 to 10,

25 each R<sub>1</sub> is independently selected from -H, C<sub>1</sub> - C<sub>6</sub> alkyl (linear or branched), C<sub>1</sub> - C<sub>6</sub>-alkoxy, C<sub>1</sub> - C<sub>6</sub> -alkylthio, C<sub>1</sub> - C<sub>6</sub> -haloalkyloxy, C<sub>1</sub>-C<sub>6</sub> partially or fully halogenated alkyl, unsubstituted or substituted C<sub>3</sub> - C<sub>8</sub> cycloalkyl, an unsubstituted or partially or fully substituted aryl, wherein the cycloalkyl and the aryl are optionally substituted by -F, -Cl, -Br, -I, -CN, -OH, -SH, -NH<sub>2</sub>, -CONH<sub>2</sub>, C<sub>1</sub> - C<sub>6</sub> alkyl (linear or branched), -C≡C-(CH<sub>2</sub>)<sub>n</sub>-CH<sub>3</sub>, C<sub>1</sub> - C<sub>6</sub>-alkoxy, C<sub>1</sub> - C<sub>6</sub> -alkylthio,

$C_1 - C_6$ -haloalkyloxy, and/or  $C_1 - C_6$  partially or fully halogenated alkyl ( $C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched), -F, -Cl, -Br, -I, -COOH, -NH<sub>2</sub>,



each  $R_2$  is independently selected from -F, -Cl, -Br, -I, -CN, -OH, -SH, -NH<sub>2</sub>,  $C_1 - C_6$  alkyl (linear or branched),  $C_1 - C_6$ -alkoxy,  $C_1 - C_6$ -alkylthio,  $C_1 - C_6$ -haloalkyloxy, partially or fully halogenated  $C_1 - C_6$  alkyl ( $C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

$R_3$  is -H or  $-(R_1)_l-(X_a)_l-(CH_2)_n-(X_b)_l-(CH_2)_n-(Y)_l-R_1$ ,

$R_4$  is -H or  $-(R_1)_l-(Z)_l-(CH_2)_n-(X_b)_l-(CH_2)_n-(Y)_l-R_1$

covalently immobilized on a support material via the group Y.

52. (new) The medium according to claim 51, wherein at least one of the compounds 4-[4-(4-fluoro-phenyl)-5-pyridine-4-yl-1*H*-imidazole-2-yl]-benzylamine, 2-[4-(2-Aminoethoxy)-phenylamino]-6-(2,6-dichloro-phenyl)-8-methyl-8*H*-pyrido[2,3-*d*]pyrimidine-7-one, 2-[1-(3-aminopropyl)-1*H*-indole-3-yl]maleimide, 3-[1-(3-Aminopropyl)-1*H*-indol-3-yl]-3-(1*H*-indol-3-yl)-maleimide, 3-[1-(3-Aminopropyl)-1*H*-indol-3-yl]-4-(1-methyl-1*H*-indol-3-yl)maleimide, 3-(8-Aminomethyl-6,7,8,9-tetrahydropyrido-[1,2-*a*]-indol-10-yl)-4-(1-methyl-1*H*-indol-3-yl)-maleimide, [6-(3-Amino-propoxy)-7-methoxy-quinazolin-4-yl]-(3-chloro-phenyl)-amine, 6-(3-Amino-propoxy)-7-methoxy-quinazolin-4-yl]-(3-chloro-4-fluoro-phenyl)-amine, 6-(3-Amino-propoxy)-7-methoxy-

quinazolin-4-yl]-(3-bromo-phenyl)-amine and 4-[4-(4-Amino-butyl)-piperazin-1-yl-methyl]-*N*-[4-methyl-3-(4-pyridin-3-yl-pyrimidin-2-ylamino)-phenyl]-benzamide is immobilized on the support material.

5 53. (new) The medium according to claim 51, wherein the support material comprises agarose and/or modified agarose material.

54. (new) The medium according to claim 51, wherein the support material comprises ferro- or ferrimagnetic particles.

10

55. (new) The medium according to claim 54, wherein the ferro- or ferrimagnetic particles have a surface area of about 190 m<sup>2</sup>/g or greater, determined according the BET method and/or wherein the average size of the ferro- or ferrimagnetic particles is from 5 to 25 μm in diameter.

15

56. (new) The medium according to claim 54, wherein the ferro- or ferrimagnetic particles comprise about 30 to 50 % by weight of Fe<sub>3</sub>O<sub>4</sub> and about 50 to 70 % by weight of SiO<sub>2</sub>.

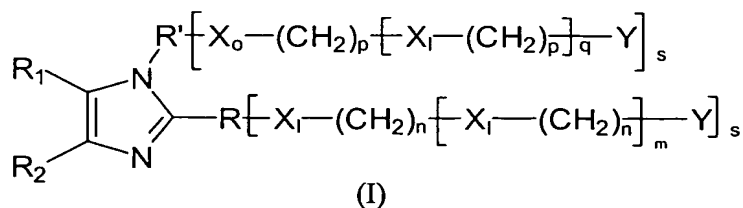
20 57. (new) The medium according to claim 51, wherein the pool of proteins is a proteome, a cell lysate or a tissue lysate.

58. (new) The medium according to claim 51, wherein the ATP binding protein is a protein kinase.

25 59. (new) A method for enriching, purifying or depleting at least one ATP binding protein from a pool of proteins containing at least one ATP binding protein, the method comprising the following steps:

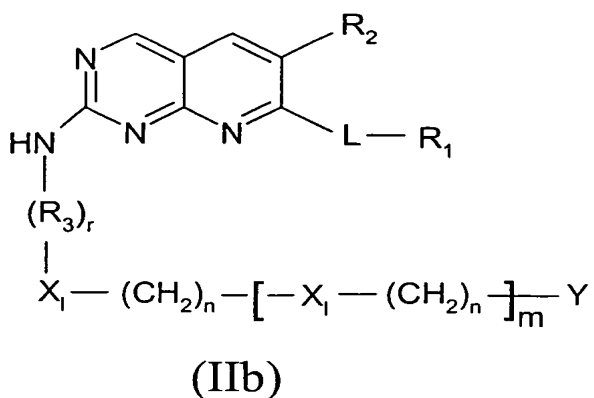
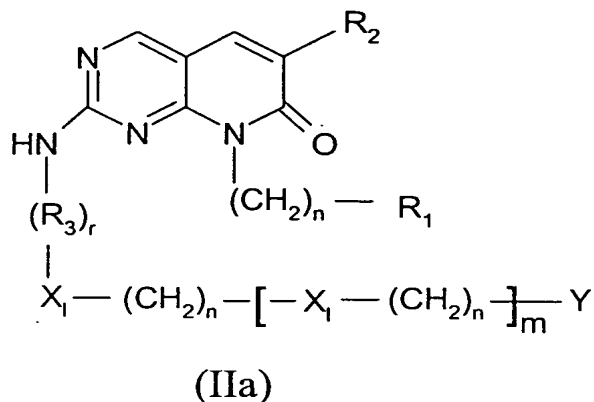
a) immobilizing at least one compound of the general formula I

30



35

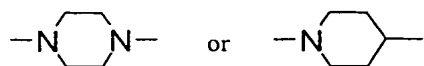
formulas IIa and IIb (compound class B)



wherein

each L is independently selected from  $\text{-NH-CO-NH-}$ ,  $\text{-NH-SO}_2\text{-}$ , or  $\text{-NH-CS-NH-}$ ,

each X is independently selected from  $\text{-CH}_2\text{-}$ ,  $\text{-NH-}$ ,  $\text{-O-}$ ,  $\text{-S-}$ ,



each Y is independently selected from  $\text{-NH}_2$ ,  $\text{-NHR}_1$ ,  $\text{-OH}$ ,  $\text{-SH}$  or  $\text{-SO(CH}_3\text{)}$ ,

each l is independently selected to be 0 or 1,

each m is independently selected to be an integer from 0 to 10,

each n is independently selected to be an integer from 0 to 10,

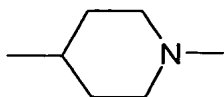
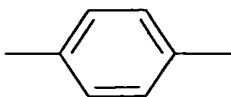
each o is independently selected to be 0 or 1,

each p is independently selected to be an integer from 0 to 10,

each q is independently selected to be an integer from 0 to 10,

each r is independently selected to be an integer from 0 to 2,

R and R' are independently of each other -H,



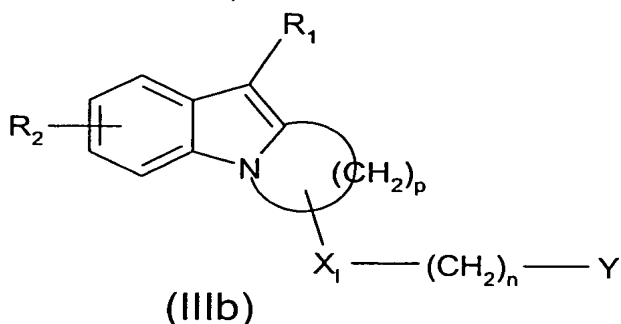
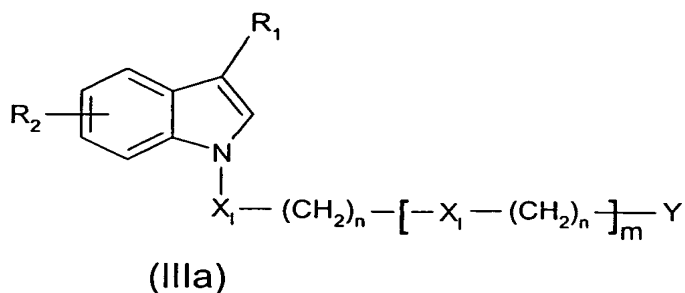
and each s is independently selected to be 0 or 1, with the proviso that s = 0 if R or R' is H,

each R<sub>1</sub> is independently selected from -H, C<sub>1</sub> - C<sub>6</sub> alkyl (linear or branched), bicyclo[3.3.1]heptanyl, or an unsubstituted or partially or fully substituted C<sub>3</sub> - C<sub>8</sub> cycloalkyl, aryl, pyridinyl or pyrimidinyl, substituted by -F, -Cl, -Br, -I, -CN, -OH, -SH, -NH<sub>2</sub>, -NHCHR<sub>2</sub>R<sub>2</sub>, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>1</sub> - C<sub>6</sub> -alkylthio, C<sub>1</sub> - C<sub>6</sub> -haloalkyloxy, partially or fully halogenated C<sub>1</sub>-C<sub>6</sub> alkyl and/or -X<sub>1</sub>-(CH<sub>2</sub>)<sub>n</sub>-Y (C<sub>1</sub> - C<sub>6</sub>-alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, C<sub>1</sub> - C<sub>6</sub>-alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, C<sub>1</sub> - C<sub>6</sub>-haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, C<sub>1</sub> - C<sub>6</sub>-haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

each R<sub>2</sub> is independently selected from -H, C<sub>1</sub> - C<sub>6</sub> alkyl (linear or branched), an unsubstituted or partially or fully substituted aryl, substituted by -F, -Cl, -Br, -I, -CN, -OH, -SH, -NH<sub>2</sub>, C<sub>1</sub> - C<sub>6</sub> alkyl (linear or branched), C<sub>1</sub> - C<sub>6</sub>-alkoxy, C<sub>1</sub> - C<sub>6</sub> -alkylthio, C<sub>1</sub> - C<sub>6</sub> -haloalkyloxy, and/or C<sub>1</sub>-C<sub>6</sub> partially or fully halogenated alkyl (C<sub>1</sub> - C<sub>6</sub>-alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, C<sub>1</sub> - C<sub>6</sub>-alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, C<sub>1</sub> - C<sub>6</sub>-haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, C<sub>1</sub> - C<sub>6</sub>-haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched), and

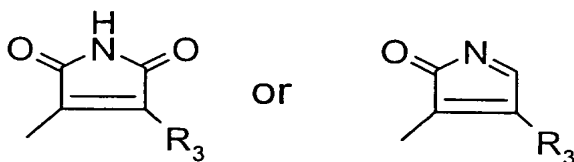
each R<sub>3</sub> is independently selected from X, an unsubstituted or partially or fully substituted aryl, pyridinyl or pyrimidinyl, substituted by -F, -Cl, -Br, -I, -CN, -OH, -SH, -NH<sub>2</sub>, -NHCHR<sub>1</sub>R<sub>1</sub>, C<sub>1</sub> - C<sub>6</sub>-alkoxy, C<sub>1</sub> - C<sub>6</sub> -alkylthio, C<sub>1</sub> - C<sub>6</sub> -haloalkyloxy, and/or partially or fully halogenated C<sub>1</sub>-C<sub>6</sub> alkyl (C<sub>1</sub> - C<sub>6</sub>-alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, C<sub>1</sub> - C<sub>6</sub>-alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, C<sub>1</sub> - C<sub>6</sub>-haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, C<sub>1</sub> - C<sub>6</sub>-haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

formulas IIIa and IIIb (compound class C)



wherein

each  $R_1$  is independently selected from



each  $R_3$  is independently selected from -indolyl, N-( $C_1 - C_6$  alkyl)-indolyl (alkyl is linear or branched), -NHR<sub>1'</sub>, -S-R<sub>1'</sub>, or -O-R<sub>1'</sub>,

R<sub>1'</sub> is -H,  $C_1 - C_6$  alkyl (linear or branched) or aryl,

each  $R_2$  is independently selected from -H, -F, -Cl, -Br, -I, -CN, -OH, -SH, -NH<sub>2</sub>,  $C_1 - C_6$ -alkyl (linear or branched),  $C_1 - C_6$ -alkoxy,  $C_1 - C_6$ -alkylthio,  $C_1 - C_6$ -haloalkyloxy, and/or  $C_1 - C_6$  partially or fully halogenated alkyl ( $C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the

alkyl group is linear or branched, C<sub>1</sub> – C<sub>6</sub>-haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

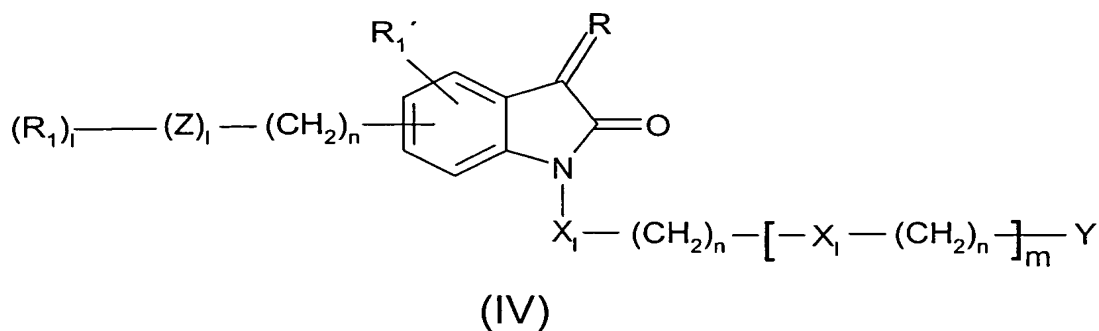
each X is independently selected from –CH<sub>2</sub>–, –NH–, –O–, –S–,



- 5 each Y is independently selected from –NH<sub>2</sub>, –NHR<sub>1</sub>, –OH, –SH or –SO(CH<sub>3</sub>),  
 each l is independently selected to be 0 or 1,  
 m is an integer from 0 to 10,  
 each n is independently selected to be an integer from 0 to 10,  
 p is an integer from 2 to 6

10

formula IV (compound class D)



15

wherein

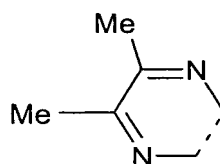
each X is independently selected from –CH<sub>2</sub>–, –NH–, –O–, –S–,



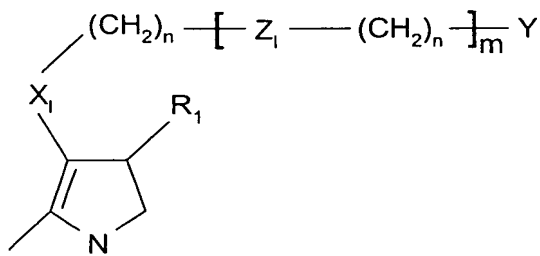
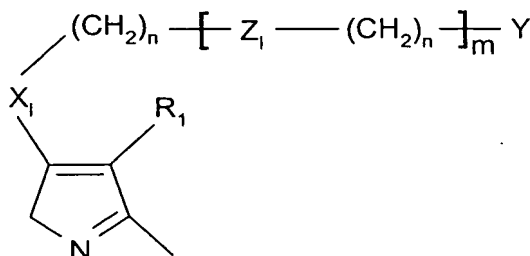
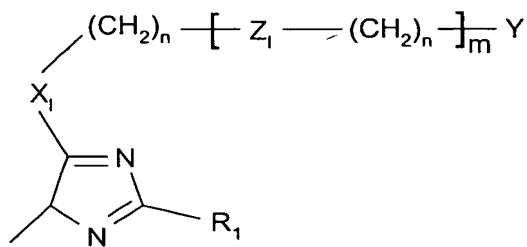
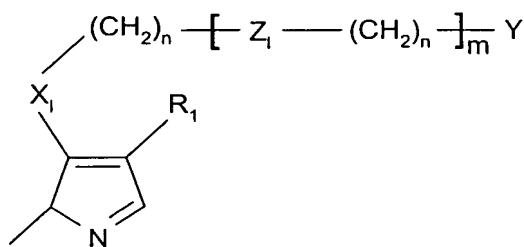
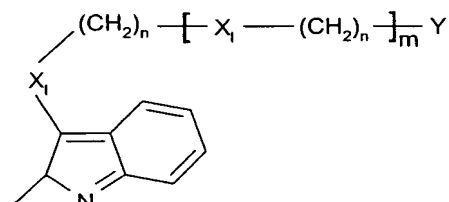
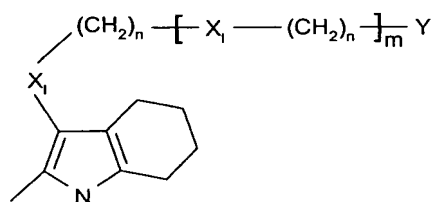
20

each Y is independently selected from –NH<sub>2</sub>, –NHR<sub>1</sub>, –OH, –SH or –SO(CH<sub>3</sub>),  
 Z is –SO<sub>2</sub>–NR<sub>1</sub>R<sub>1</sub>, –CO–, –O–CO–, –NH–CO–, –COO–, –CO–NH–,  
 –OCH<sub>2</sub>–, –SCH<sub>2</sub>–,  
 each l is independently selected to be 0 or 1,  
 m is an integer from 0 to 10,  
 each n is independently selected to be an integer from 0 to 10,  
 R is =CR<sub>1</sub>L, =N–NH–L

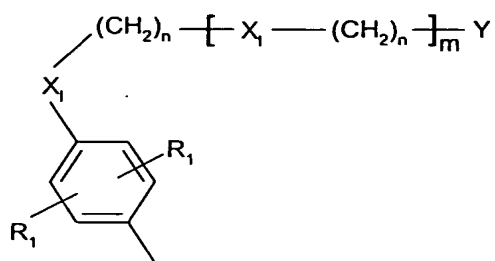
each  $R_1$  is independently selected from  $-H$ ,  $C_1 - C_6$  alkyl (linear or branched), unsubstituted or partially or fully substituted aryl, pyridinyl, pyrimidinyl,  $C_3 - C_8$  cycloalkyl substituted by  $-F$ ,  $-Cl$ ,  $-Br$ ,  $-I$ ,  $-CN$ ,  $-OH$ ,  $-SH$ ,  $-NH_2$ ,  $C_1 - C_6$ -alkoxy,  $C_1 - C_6$ -alkylthio,  $C_1 - C_6$ -haloalkyloxy, and/or  $C_1 - C_6$  partially or fully halogenated alkyl ( $C_1 - C_6$ -alkoxy denotes an O-alkyl group,  $C_1 - C_6$ -alkylthio denotes an S-alkyl group,  $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group,  $C_1 - C_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),  $-F$ ,  $-Cl$ ,  $-Br$ ,  $-I$ ,  $-COOH$ ,  $-(CH_2)_n-OH$ , oxazolyl, thiazolyl, thienyl, pyrrolyl, furanyl, imidazolyl, pyrazolyl, pyridinyl, pyrimidinyl,  $R_1'$  is independently selected from H or  $R_1$  and  $R_1'$  may form together the following substituted ringsystem



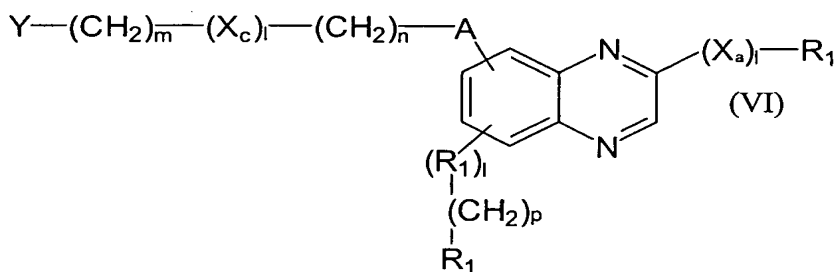
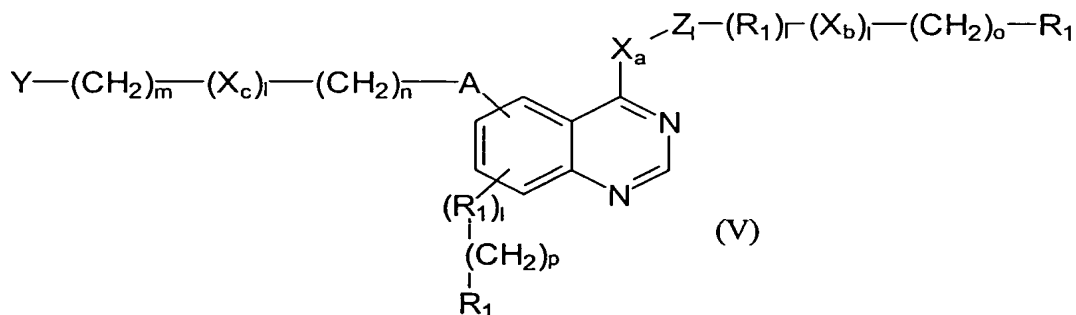
L is





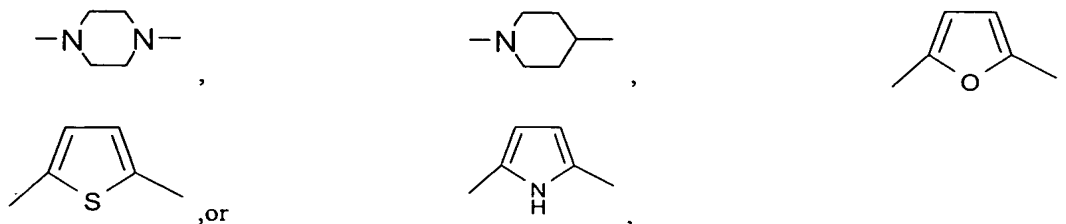


formulas V and VI (compound class E and F)



wherein

A, X<sub>a</sub>, X<sub>b</sub>, and X<sub>c</sub>, are independently selected to be Z, -CH<sub>2</sub>-, -NH-, -O-, -S-,



each Y is independently -NH<sub>2</sub>, -NHR<sub>1</sub>, -OH, -SH or -SO(CH<sub>3</sub>),

each Z is independently selected from -SO<sub>2</sub>-NR<sub>1</sub>-, -CO-, -O-CO-, -NH-CO-  
-, -COO-, -CO-NH-, -CS-NH-, -OCH<sub>2</sub>-, -SCH<sub>2</sub>-, or -NH-CO-NH-,

each l is independently selected to be 0 or 1,

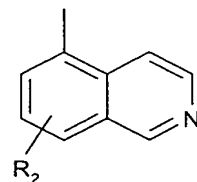
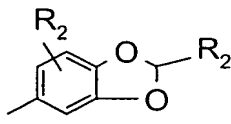
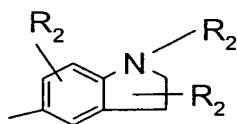
each m is independently selected to be an integer from 0 to 10,

each n is independently selected to be an integer from 0 to 10,

each o is independently selected to be an integer from 0 to 10,

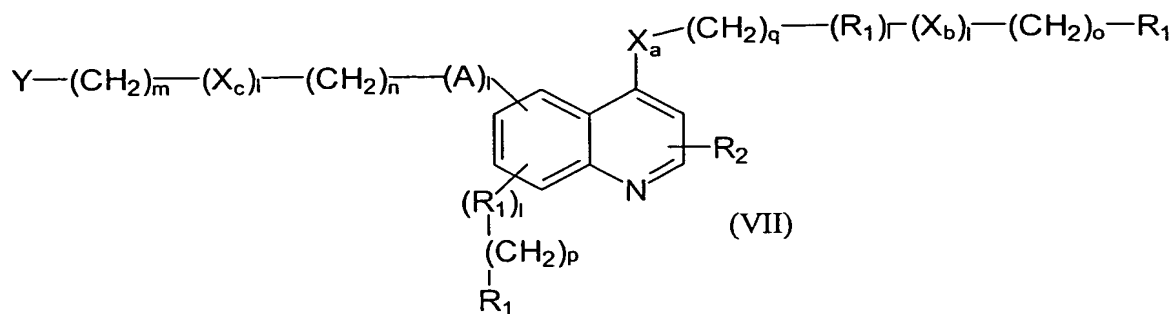
each p is independently selected to be an integer from 0 to 10,

each  $R_1$  is independently selected from  $-H$ ,  $-O-$ ,  $C_1 - C_6$  alkyl (linear or branched),  $C_1 - C_6$ -alkoxy,  $C_1 - C_6$ -alkylthio,  $C_1 - C_6$ -haloalkyloxy,  $C_1 - C_6$  partially or fully halogenated alkyl, unsubstituted or partially or fully substituted  $C_3 - C_8$  cycloalkyl, an unsubstituted or partially or fully substituted aryl, wherein the cycloalkyl and the aryl are optionally substituted by  $-F$ ,  $-Cl$ ,  $-Br$ ,  $-I$ ,  $-CN$ ,  $-OH$ ,  $-SH$ ,  $-NH_2$ ,  $-CONH_2$ ,  $C_1 - C_6$  alkyl (linear or branched),  $-C\equiv C-(CH_2)_n-CH_3$ ,  $C_1 - C_6$ -alkoxy,  $C_1 - C_6$ -alkylthio,  $C_1 - C_6$ -haloalkyloxy, and/or  $C_1 - C_6$  partially or fully halogenated alkyl ( $C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

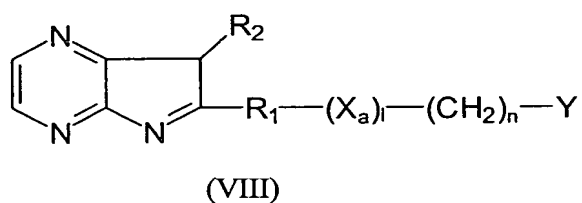


each  $R_2$  is independently selected from  $-F$ ,  $-Cl$ ,  $-Br$ ,  $-I$ ,  $-CN$ ,  $-OH$ ,  $-SH$ ,  $-NH_2$ ,  $C_1 - C_6$  alkyl (linear or branched),  $C_1 - C_6$ -alkoxy,  $C_1 - C_6$ -alkylthio,  $C_1 - C_6$ -haloalkyloxy, partially or fully halogenated  $C_1 - C_6$  alkyl ( $C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched,  $C_1 - C_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

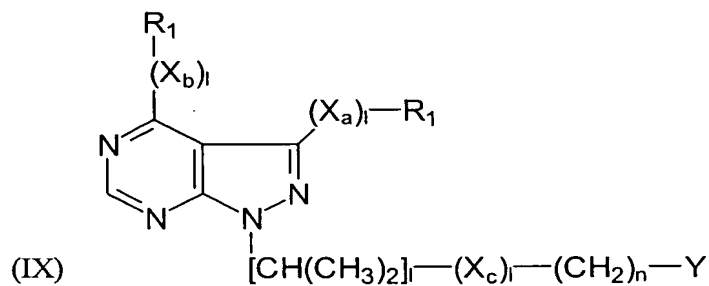
formula VII (compound class G)



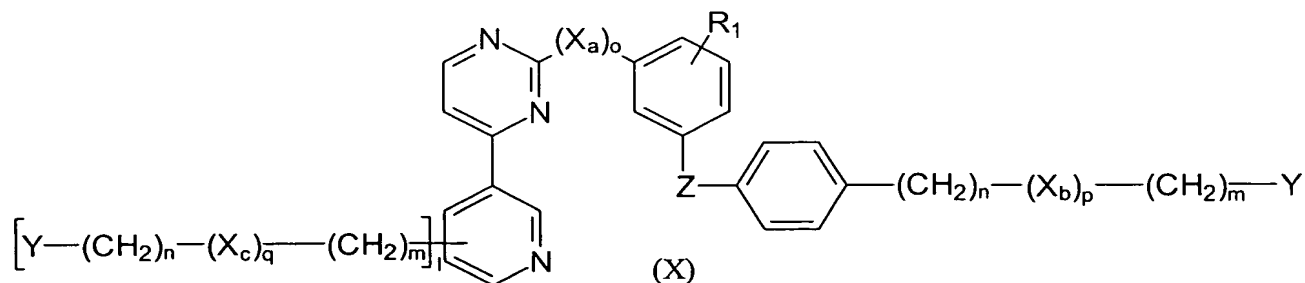
formula VIII (compound class H)



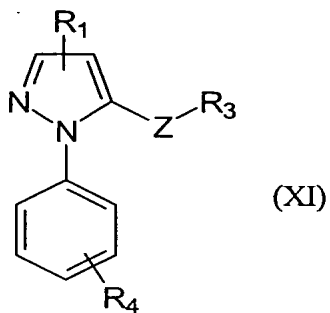
formula IX (compound class I)



formula X (compound class J)

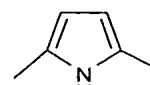
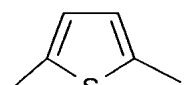
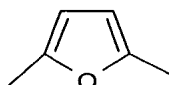
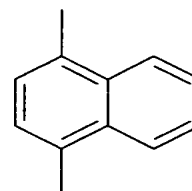
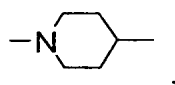
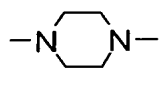


or formula XI (compound class K)



wherein

A, X<sub>a</sub>, X<sub>b</sub>, and X<sub>c</sub> are independently selected from Z, -CH<sub>2</sub>-, -NH-, -O-, -S-,



each Y is independently selected from -H, -NH<sub>2</sub>, -NHR<sub>1</sub>, -OH, -SH or -SO(CH<sub>3</sub>),

each Z is independently selected from -SO<sub>2</sub>-NR<sub>1</sub>-, -CO-, -O-CO-, -NH-CO-, -COO-, -CO-NH-, -OCH<sub>2</sub>-, -SCH<sub>2</sub>-, -NH-CO-NH-,

each l is independently selected to be 0 or 1,

each m is independently selected to be an integer from 0 to 10,

each n is an integer independently selected from 0 to 10,

each of o, p, q is an integer independently selected from 0 to 10,

each R<sub>1</sub> is independently selected from -H, C<sub>1</sub> - C<sub>6</sub> alkyl (linear or branched), C<sub>1</sub> - C<sub>6</sub>-alkoxy, C<sub>1</sub> - C<sub>6</sub> -alkylthio, C<sub>1</sub> - C<sub>6</sub> -haloalkyloxy, C<sub>1</sub>-C<sub>6</sub> partially or fully halogenated alkyl, unsubstituted or substituted C<sub>3</sub> - C<sub>8</sub> cycloalkyl, an unsubstituted or partially or fully substituted aryl, wherein the cycloalkyl and the aryl are optionally substituted by -F, -Cl, -Br, -I, -CN, -OH, -SH, -NH<sub>2</sub>, -CONH<sub>2</sub>, C<sub>1</sub> - C<sub>6</sub> alkyl (linear or branched), -C≡C-(CH<sub>2</sub>)<sub>n</sub>-CH<sub>3</sub>, C<sub>1</sub> - C<sub>6</sub>-alkoxy, C<sub>1</sub> - C<sub>6</sub> -alkylthio, C<sub>1</sub> - C<sub>6</sub> -haloalkyloxy, and/or C<sub>1</sub>-C<sub>6</sub> partially or fully halogenated alkyl

(C<sub>1</sub> – C<sub>6</sub>-alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, C<sub>1</sub> – C<sub>6</sub>-alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, C<sub>1</sub> – C<sub>6</sub>-haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, C<sub>1</sub> – C<sub>6</sub>-haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched), –F, –Cl, –Br, –I, –COOH, –NH<sub>2</sub>,



each R<sub>2</sub> is independently selected from –F, –Cl, –Br, –I, –CN, –OH, –SH, –NH<sub>2</sub>, C<sub>1</sub> – C<sub>6</sub> alkyl (linear or branched), C<sub>1</sub> – C<sub>6</sub>-alkoxy, C<sub>1</sub> – C<sub>6</sub>-alkylthio, C<sub>1</sub> – C<sub>6</sub>-haloalkyloxy, partially or fully halogenated C<sub>1</sub>-C<sub>6</sub> alkyl (C<sub>1</sub> – C<sub>6</sub>-alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, C<sub>1</sub> – C<sub>6</sub>-alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, C<sub>1</sub> – C<sub>6</sub>-haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, C<sub>1</sub> – C<sub>6</sub>-haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

R<sub>3</sub> is –H or  $-(R_1)_l-(X_a)_l-(CH_2)_n-(X_b)_l-(CH_2)_n-(Y)_l-R_1$ ,

R<sub>4</sub> is –H or  $-(R_1)_l-(Z)_l-(CH_2)_n-(X_b)_l-(CH_2)_n-(Y)_l-R_1$

covalently on a support material via the group Y;

- b) bringing the pool of proteins containing at least one protein kinase into contact with at least one of the compounds immobilized on the support material; and
- c) separating the proteins not bound to the at least one compound immobilized on the support material from the at least one protein kinase bound to the at least one compound immobilized on the support material.

60. (new) The method according to claim 59, wherein the at least one compound immobilized on the support material is 4-[4-(4-fluoro-phenyl)-5-pyridine-4-yl-1H-imidazole-2-yl]-benzylamine, 2-[4-(2-Amino-ethoxy)-phenylamino]-6-(2,6-dichloro-phenyl)-8-methyl-8H-pyrido[2,3-d]pyrimidine-7-one, 2-[1-(3-aminopropyl)-1H-indole-3-yl]maleimide, 3-[1-(3-Aminopropyl)-1H-indol-3-yl]-3-(1H-indol-3-yl)-maleimide, 3-

[1-(3-Aminopropyl)-1*H*-indol-3-yl]-4-(1-methyl-1*H*-indol-3-yl)maleimide, 3-(8-Aminomethyl-6,7,8,9-tetrahydropyrido-[1,2-*a*]-indol-10-yl)-4-(1-methyl-1*H*-indol-3-yl)-maleimide, [6-(3-Amino-propoxy)-7-methoxy-quinazolin-4-yl]-(3-chloro-phenyl)-amine, 6-(3-Amino-propoxy)-7-methoxy-quinazolin-4-yl]-(3-chloro-4-fluoro-phenyl)-amine, 6-(3-Amino-propoxy)-7-methoxy-quinazolin-4-yl]-(3-bromo-phenyl)-amine and 4-[4-(4-Amino-butyl)-piperazin-1-yl-methyl]-*N*-[4-methyl-3-(4-pyridin-3-yl-pyrimidin-2-ylamino)-phenyl]-benzamide.

61. (new) The method according to claim 59, further comprising a step:

d) releasing the at least one protein kinase bound to the at least one compound immobilized on the support material from the at least one of said compounds and collecting the released at least one protein kinase.

62. (new) The method according to claim 59, wherein the support material comprises agarose and/or modified agarose material.

63. (new) The method according to claim 59, wherein the support material comprises ferro- or ferrimagnetic particles.

64. (new) The method according to claim 59, wherein in step c) the separation of the proteins not bound to the at least one compound immobilized on the support material from the at least one ATP binding protein bound to the at least one compound immobilized on the support material is effected by washing with a buffer containing 5 to 500 mM Hepes pH 6.5-8.5 or 5 to 500 mM Tris-HCl pH 6.8 to 9.0, 0 to 1000 mM NaCl, 0.0 to 5% Triton X-100, 0 to 500 mM EDTA, and 0 to 200 mM EGTA.

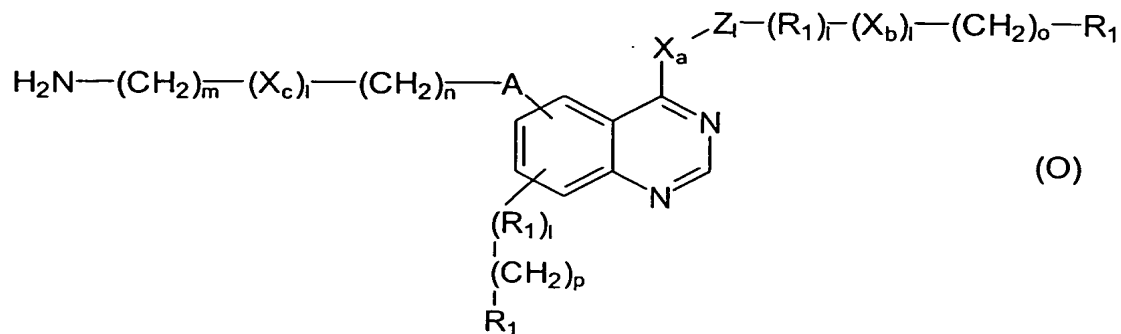
65. (new) The method according to claim 64, wherein the buffer contains 20 mM Hepes/NaOH pH 7.5, 150 mM NaCl, 0.25% Triton X-100, 1 mM EDTA, and 1 mM EGTA.

66. (new) The method according to claim 61, wherein in step d) the release of the at least one protein kinase bound to the at least one compound immobilized on the support material is effected by washing with a buffer containing 5 to 500 mM Hepes pH 6.5-8.5 or 5 to 500 mM Tris-HCl pH 6.8 to 9.0, 0 to 1000 mM NaCl, 0.0 to 5.0% Triton X-100, 0 to 500 mM EDTA, 0 to 200 mM EGTA, 1 to 100 mM ATP, 1 to 200 mM

MgCl<sub>2</sub> and 0.1 to 10 mM of at least one of the compounds immobilized on the support material.

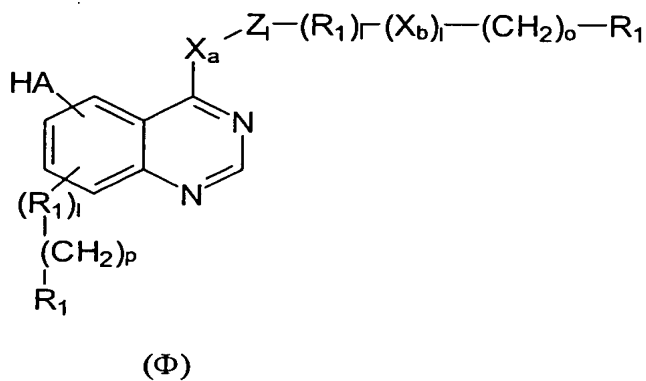
67. (new) The method according to claim 66., wherein the buffer contains 20 mM Hepes pH 7.5,  
5 150 mM NaCl, 0.25% Triton X-100, 1 mM EDTA, 1 mM EGTA, 10 mM ATP, 20mM MgCl<sub>2</sub> and 1 mM of at least one of the compounds immobilized on the support material.
68. (new) The method according to claim 59., wherein the pool of proteins is a proteome,  
10 cell lysate or tissue lysate.
69. (new) The method according to claim 59., wherein the ATP binding protein is a protein kinase.
- 15 70. (new) The method according to claim 59., wherein the at least one ATP binding protein is enriched at least 100-fold from the pool of proteins.
71. (new) The method according to claim 70., wherein the at least one ATP binding protein is enriched at least 10<sup>4</sup>-fold and preferably up to 10<sup>6</sup>-fold.  
20
72. (new) Kit comprising a medium according to general formula (I) or general formula (IIa) or general formula (IIb).
73. (new) Kit according to claim 72., further comprising at least one buffer containing 5 to 500  
25 mM Hepes pH 6.5-8.5 or 5 to 500 mM Tris-HCl pH 6.8 to 9.0, 0 to 1000 mM NaCl, 0.0 to 5% Triton X-100, 0 to 500 mM EDTA, and 0 to 200 mM EGTA.
74. (new) Kit according to claim 72., further comprising at least one buffer containing 20 mM Hepes/NaOH pH 7.5, 150 mM NaCl, 0.25% Triton X-100, 1 mM EDTA, and 1 mM  
30 EGTA.
75. (new) Kit according to claim 72., further comprising at least one buffer containing 5 to 500 mM Hepes pH 6.5-8.5 or 5 to 500 mM Tris-HCl pH 6.8 to 9.0, 0 to 1000 mM NaCl, 0.0 to 5.0% Triton X-100, 0 to 500 mM EDTA, 0 to 200 mM EGTA, 1 to 100 mM  
35 ATP, 1 to 200 mM MgCl<sub>2</sub> and 0.1 to 10 mM.

76. (new) Method of making a quinazoline compound of general formula (O) or a salt thereof:

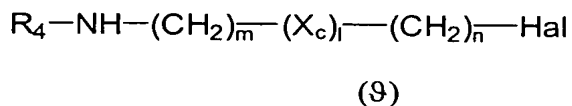


the method comprising the step (A):

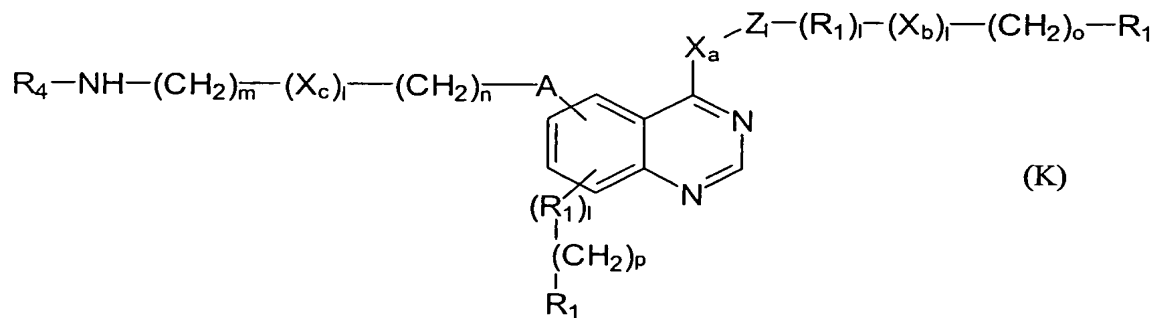
reacting a compound with the general formula ( $\Phi$ )



with a compound of the general formula (9)



to give compound (K)



wherein the reaction is carried out in the presence of a base and an inert solvent,

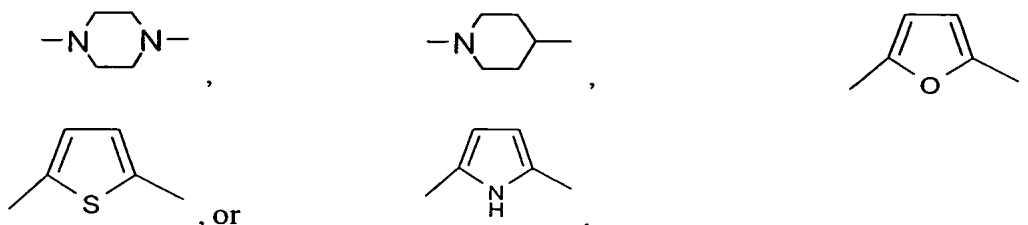


and wherein

A is  $-\text{O}-$ ,  $-\text{S}-$ ,  $-\text{NH}-$ ,

Hal is  $-\text{Cl}$ ,  $-\text{Br}$ , or  $-\text{I}$ ,

$\text{X}_a$ ,  $\text{X}_b$ , and  $\text{X}_c$  are independently selected from  $\text{Z}$ ,  $-\text{CH}_2-$ ,  $-\text{NH}-$ ,  $-\text{O}-$ ,  $-\text{S}-$ ,



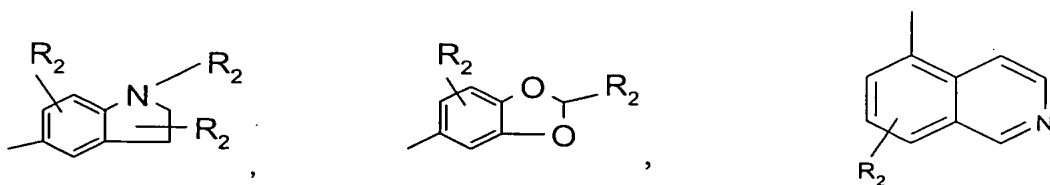
$\text{Z}$  is  $-\text{SO}_2-\text{NR}_1-$ ,  $-\text{CO}-$ ,  $-\text{O}-\text{CO}-$ ,  $-\text{NH}-\text{CO}-$ ,  $-\text{COO}-$ ,  $-\text{CO}-\text{NH}-$ ,  $-\text{CS}-\text{NH}-$ ,  $-\text{OCH}_2-$ ,  $-\text{SCH}_2-$ , or  $-\text{NH}-\text{CO}-\text{NH}-$ ,

$l$  is independently selected for each moiety to be 0 or 1,

10 each of  $m$ ,  $n$ ,  $o$ , and  $p$  is an integer independently selected for each moiety from 0–10,  $\text{R}_1$  is independently selected from  $-\text{H}$ ,  $-\text{O}-$ ,  $\text{C}_1 - \text{C}_6$  alkyl (linear or branched),  $\text{C}_1 - \text{C}_6$ -alkoxy,  $\text{C}_1 - \text{C}_6$ -alkylthio,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy,  $\text{C}_1$ - $\text{C}_6$  partially or fully halogenated alkyl, unsubstituted or partially or fully substituted  $\text{C}_3 - \text{C}_8$  cycloalkyl, an unsubstituted or partially or fully substituted aryl, wherein the cycloalkyl and the aryl

15 are optionally substituted by  $-\text{F}$ ,  $-\text{Cl}$ ,  $-\text{Br}$ ,  $-\text{I}$ ,  $-\text{CN}$ ,  $-\text{OH}$ ,  $-\text{SH}$ ,  $-\text{NH}_2$ ,  $-\text{CONH}_2$ ,  $\text{C}_1 - \text{C}_6$  alkyl (linear or branched),  $-\text{C}\equiv\text{C}-(\text{CH}_2)_n-\text{CH}_3$ ,  $\text{C}_1 - \text{C}_6$ -alkoxy,  $\text{C}_1 - \text{C}_6$ -alkylthio,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy, and/or  $\text{C}_1$ - $\text{C}_6$  partially or fully halogenated alkyl ( $\text{C}_1 - \text{C}_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched,  $\text{C}_1 - \text{C}_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is

20 linear or branched,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched,  $\text{C}_1 - \text{C}_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),



25  $\text{R}_2$  is  $-\text{F}$ ,  $-\text{Cl}$ ,  $-\text{Br}$ ,  $-\text{I}$ ,  $-\text{CN}$ ,  $-\text{OH}$ ,  $-\text{SH}$ ,  $-\text{NH}_2$ ,  $\text{C}_1 - \text{C}_6$  alkyl (linear or branched),  $\text{C}_1 - \text{C}_6$ -alkoxy,  $\text{C}_1 - \text{C}_6$ -alkylthio,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy, partially or fully halogenated,  $\text{C}_1$ - $\text{C}_6$  alkyl ( $\text{C}_1 - \text{C}_6$ -alkoxy denotes an O-alkyl group,  $\text{C}_1 - \text{C}_6$ -alkylthio denotes an S-alkyl group,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy denotes an halogen-alkyl-O

group,  $C_1 - C_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

$R_4$  is a leaving group, selected from the group consisting of t-butyloxycarbonyl (BOC), flourene-9-ylmethoxycarbonyl (Fmoc) or benzyloxycarbonyl and further comprising as step (B):

cleaving off the leaving group  $R_4$  to give compound (O) or a salt thereof.

77. (new) The method according to claim 76., wherein the base used in reaction step (A) is  $K_2CO_3$  or  $Na_2CO_3$  and the inert solvent is selected from the group consisting of acetonitrile, acetone, toluene, THF or DMF.

78. (new) The method according to claim 76., wherein in compounds ( $\Phi$ ), (9) and (K),

$l$  is 0,  $o$  is 0,  $p$  is 0, and  $m$  is 0,

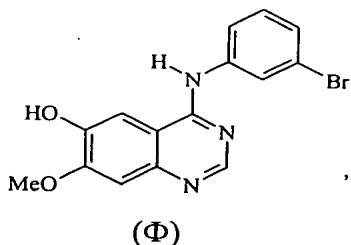
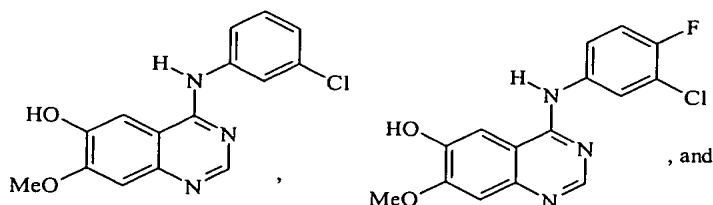
$n$  is an integer selected from 1 to 8, preferably from 2 to 6, and most preferably is 4,

$X$  is  $-NH-$ ,

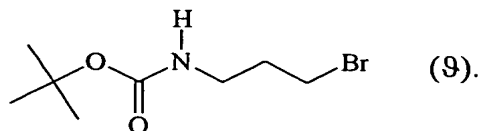
$R_3$  is  $C_1 - C_6$  alkyl (linear or branched), and

$R_1$  is an unsubstituted or partially or fully substituted aryl, wherein the aryl is substituted by at least one of the substituents comprised in the group consisting of  $-F$ ,  $-Cl$ ,  $-Br$ ,  $-I$ ,  $-CN$ ,  $-OH$ ,  $-SH-$ ,  $C_1 - C_6$ -alkylthio, and benzyloxy-.

79. (new) The method according to claim 76., wherein compound ( $\Phi$ ) is selected from the group consisting of



and compound (9) is



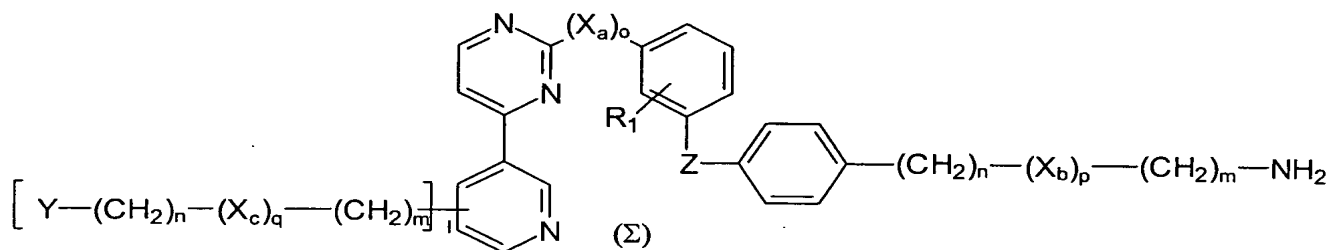
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80. (new) The method according to claim 76., wherein the leaving group  $R_4$  is removed from compound (K) by contacting compound (K) with hydrochloric acid as the protonic acid, preferably by contacting compound (K) with a solution of hydrochloric saturated ethylacetate.

10

81. (new) A method of making a compound with the general formula ( $\Sigma$ )

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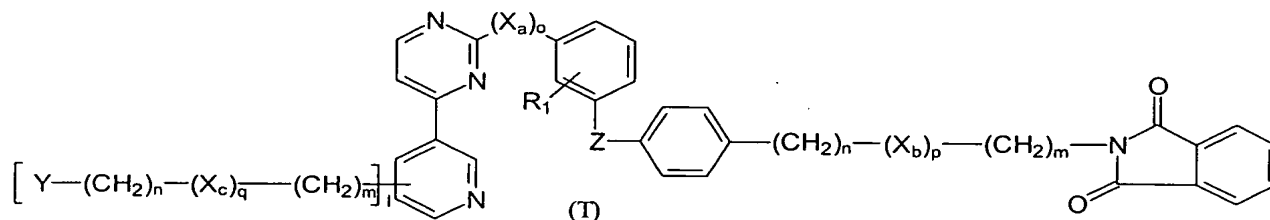


comprising the steps (A):

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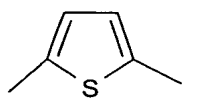
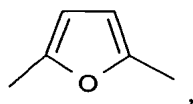
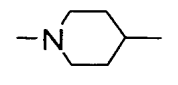
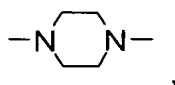
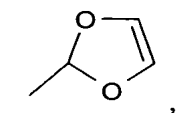
reacting a compound of the general formula (T)

25

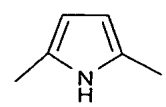


with hydrazine in a protic solvent and subsequently reacting the crude reaction product with an aqueous solution of an protonic acid, wherein in compounds ( $\Sigma$ ) and (T)

$X_a$ ,  $X_b$  and  $X_c$  are independently selected from the group consisting of  $Z$ ,  $-CH_2-$ ,  $-NH-$ ,  $-O-$ ,  $-S-$ ,



or



Y is  $-\text{NH}_2$ ,  $-\text{NHR}_1$ ,  $-\text{OH}$ ,  $-\text{SH}$  or  $-\text{SO}(\text{CH}_3)$ ,

Z is  $-\text{SO}_2-\text{NR}_1$ ,  $-\text{CO}-$ ,  $-\text{O}-\text{CO}-$ ,  $-\text{NH}-\text{CO}-$ ,  $-\text{COO}-$ ,  $-\text{CO}-\text{NH}-$ ,  $-\text{OCH}_2-$ ,  
or  $-\text{SCH}_2-$ ,

5 l is independently selected to be 0 or 1,

m is an integer independently selected from 0 to 10,

n is an integer independently selected from 0 to 10,

o is an integer independently selected from 0 to 10,

p is an integer independently selected from 0 to 10,

10 q is an integer independently selected from 0 to 10, and

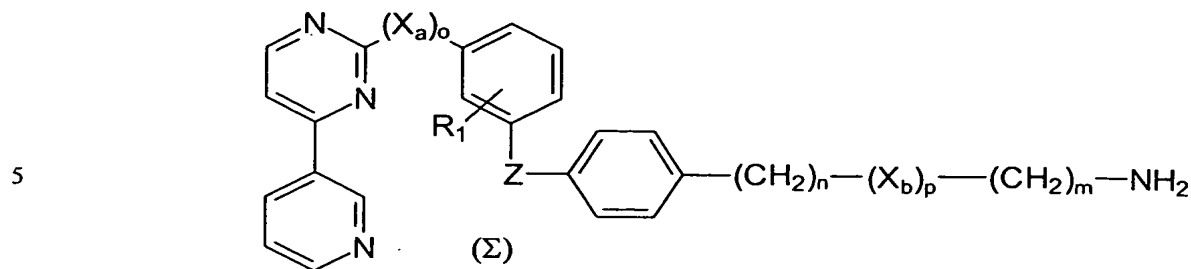
$\text{R}_1$  is independently selected from  $-\text{H}$ ,  $\text{C}_1 - \text{C}_6$  alkyl (linear or branched),  $\text{C}_1 - \text{C}_6$ -alkoxy,  $\text{C}_1 - \text{C}_6$ -alkylthio,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy,  $\text{C}_1 - \text{C}_6$  partially or fully halogenated alkyl, unsubstituted or substituted  $\text{C}_3 - \text{C}_8$  cycloalkyl, an unsubstituted or partially or fully substituted aryl, wherein the cycloalkyl and the aryl are optionally substituted by  $-\text{F}$ ,  $-\text{Cl}$ ,  $-\text{Br}$ ,  $-\text{I}$ ,  $-\text{CN}$ ,  $-\text{OH}$ ,  $-\text{SH}$ ,  $-\text{NH}_2$ ,  $-\text{CONH}_2$ ,  $\text{C}_1 - \text{C}_6$  alkyl (linear or branched),  $-\text{C}\equiv\text{C}-(\text{CH}_2)_n-\text{CH}_3$ ,  $\text{C}_1 - \text{C}_6$ -alkoxy,  $\text{C}_1 - \text{C}_6$ -alkylthio,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy, and/or  $\text{C}_1 - \text{C}_6$  partially or fully halogenated alkyl ( $\text{C}_1 - \text{C}_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched,  $\text{C}_1 - \text{C}_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched,  $\text{C}_1 - \text{C}_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched,  $\text{C}_1 - \text{C}_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),  $-\text{F}$ ,  $-\text{Cl}$ ,  $-\text{Br}$ ,  $-\text{I}$ ,  $-\text{COOH}$ ,  $-\text{NH}_2$ ,



82. (new) The method of claim 81., wherein the protic solvent is selected from the group of alkyl alcohols, preferably from the group consisting of methanol, ethanol, propanol, iso-propanol, n-butanol and iso-butanol, and most preferably is ethanol.

83. (new) The method according to claim 81., wherein the protonic acid is selected from hydrochloric acid or hydrobromic acid, and preferably is hydrochloric acid.

84. (new) The method according to claim 81., wherein ( $\Sigma$ ) is

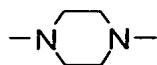


and wherein o is 1 and  $X_a$  is -NH-,

Z is -CO-NH-,

10  $R_1$  is an alkyl group,

and  $X_b$  is:

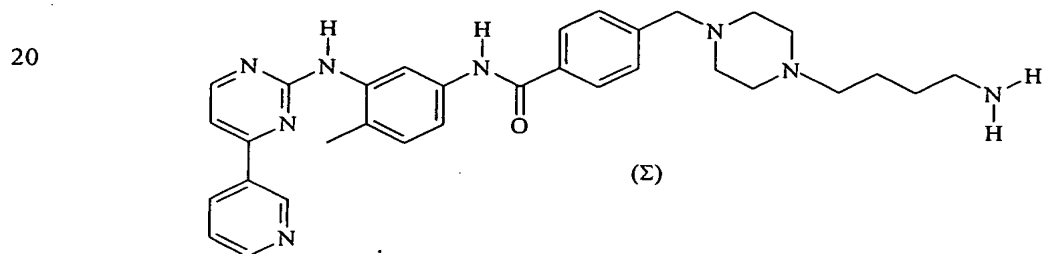


85. (new) The method according to claim 81., wherein

15 l is 0, m is 0, and

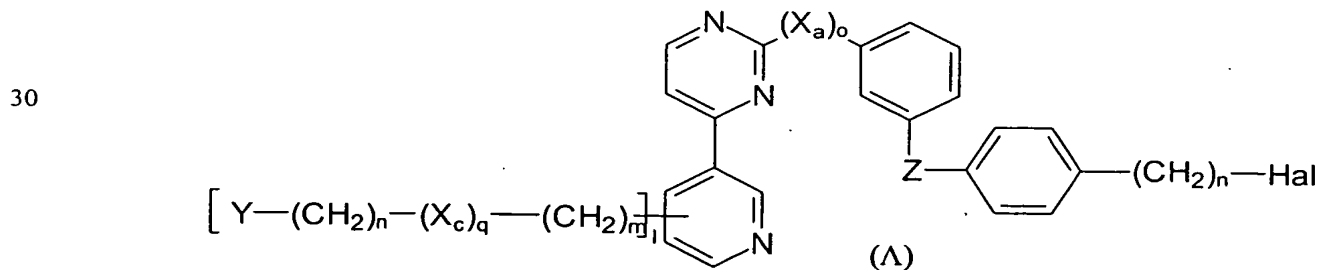
n is an integer selected from 1 to 6, preferably from 2 to 4 and most preferably is 4.

86. (new) The method according to claim 81., wherein the compound ( $\Sigma$ ) is

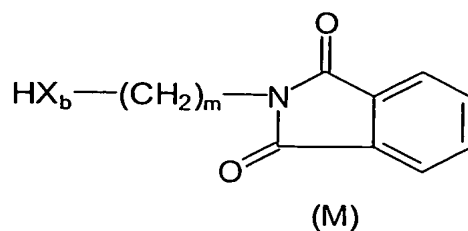


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87. (new) The method according to claim 81., further comprising the step of providing the compound (T) by reaction of compound ( $\Lambda$ ) or a salt thereof



with compound (M) or salt thereof



in the presence of a base,

wherein Hal is a halogen selected, preferably selected from the group consisting of  
10 -Cl, -Br, and -I, and preferably is -Br, and

wherein X<sub>a</sub>, X<sub>b</sub> and X<sub>c</sub>, Y, Z, R<sub>1</sub>, l, m, n, o, p, and q have the same meaning as in  
compounds (T) and (Σ) as defined in claim 79.

88. (new) The method according to claim 87., wherein the base is selected from the group  
15 consisting of ammonia, primary amines, especially primary alkyl amines, secondary  
amines, especially secondary alkylamines or tertiary amines, especially tertiary  
alkylamines, and preferably is triethylamine.

89. (new) The method according to claim 87., wherein in compound (Λ)

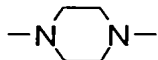
20 l is 0

X<sub>a</sub> is -NH-,

R<sub>1</sub> is a linear or branched C<sub>1</sub>-C<sub>6</sub>-alkyl, preferably -CH<sub>3</sub>,

Z is -NHCO-,

n is an integer from 1 to 8, preferably from 1 to 4, and most preferably is 1, and

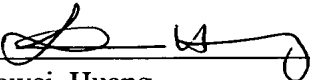
X<sub>b</sub> is 

No new matter has been added to the application by the amendments made to the claims.

Dated: 1/28/2005

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J.C. Patents

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